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Approved for use through 09/30/2006. OMB 0651-0031

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	09/702,788
Filing Date	November 1, 2000
First Named Inventor	Gilbert Verghese
Art Unit	2612
Examiner Name	Kelly L. Jerabek
Attorney Docket Number	11309-001

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Certificate of Correction
<div style="text-align: right;">Certificate of Correction AUG 11 2006</div>		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Bereskin & Parr		
Signature			
Printed name	Isis E. Caulder		
Date	August 2, 2006	Reg. No.	47,275

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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AUG 11 2006

Bereskin & Parr

INTELLECTUAL PROPERTY LAW

August 2, 2006



Isis E. Caulder
B.A.Sc. (Eng. Sci.), M.A.Sc. (Elect. Eng.), J.D.
416 957 1680 icaulder@bereskinparr.com

Your Reference: 09/702,788
Our Reference: 11309-001

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 35 U.S.C. 254

Commissioner for Patents
P.O. Box 1450
Alexandria, VA
22313-1450 U.S.A.

Dear Sir:

Re: United States Patent No. 7,038,709
United States Patent Application No. 09/702,788
For: SYSTEM AND METHOD FOR TRACKING A SUBJECT
Filed: November 1, 2000
Issued: May 2, 2006
Applicant: Gilbert Verghese

In accordance with the provisions of 37 C.F.R. 1.322(a)(1), the Office is requested to issue a Certificate of Correction. The applicant has attached a Certificate of Correction form PTO/SB/44. The Certificate requests the following corrections:

Claim 1, column 23, line 11, replace -- (v) at least one point on the tendon remaining fixed relative to the second rotation axis when said first shaft member rotates and said second shaft member is stationary, such that the first rotatable movement produced by the rotation of the first shaft member is independent of the second rotatable movement produced by the rotation of the second shaft member -- with the following:

" (v) a tendon for coupling the second shaft member to the second rotatable member; "

Claim 1, column 23, line 22, replace -- first shaft element -- with "first shaft member"

Claim 1, column 23, line 24, replace -- second shaft element -- with "second shaft member"

Claim 21, column 24, line 61, replace -- (d) -- with "(c)"

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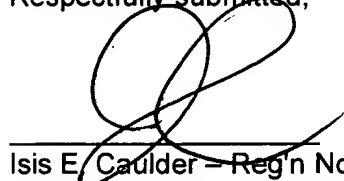
AUG 11 2006

The above amendments correspond to the attached 37 CFR 1.312 Amendment dated February 2, 2006 to the Notice of Allowance dated November 30, 2005 as acknowledged and entered by the Examiner in the attached Response to Rule 312 Communication dated February 21, 2006.

As the error arose during the printing of the Patent by the Office, no fee is payable.

If you have any questions, please feel free to contact the undersigned at (416) 957-1680.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'Isis E. Caulder', written over a horizontal line.

Isis E. Caulder – Reg'n No. 47,275
Bereskin & Parr – Customer No. 001059

Encl.
/mr

AUG 11 2006

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.: 7,038,709
APPLICATION NO.: 09/702,788
ISSUE DATE: May 2, 2006
INVENTOR(S): Gilbert Verghese

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Claim 1, column 23, line 11, replace -- (v) at least one point on the tendon remaining fixed relative to the second rotation axis when said first shaft member rotates and said second shaft member is stationary, such that the first rotatable movement produced by the rotation of the first shaft member is independent of the second rotatable movement produced by the rotation of the second shaft member -- with the following:

" (v) a tendon for coupling the second shaft member to the second rotatable member; "

Claim 1, column 23, line 22, replace -- first shaft element -- with "first shaft member"

Claim 1, column 23, line 24, replace -- second shaft element -- with "second shaft member"

Claim 21, column 24, line 61, replace -- (d) -- with "(c)"

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Bereskin & Parr
Box 401, 40 King Street West
Toronto, Ontario, M5H 3Y2, Canada

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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AUG 11 2006



Response to Rule 312 Communication

Application No.

09/702,788

Applicant(s)

VERGHESE, GILBERT

Examiner

Kelly L. Jerabek

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☒ The amendment filed on 02 February 2006 under 37 CFR 1.312 has been considered, and has been:

a) ☒ entered.


b) ☒ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.


TUAN HO
PRIMARY EXAMINER
Active SPE

AUG 11 2006

DETAILED ACTION



The amendment filed on 2/2/2006 under 37 CFR 1.312 has been entered.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is (571) 272-7312. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for submitting all Official communications is (703) 872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (571) 273-7312.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). KLJ



TUAN HO
PRIMARY EXAMINER

AUG 11 2006



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,788	11/01/2000	Gilbert Verghese	11309-001	1110
1059	7590	02/21/2006	EXAMINER	
BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA				
		JERABEK, KELLY L		
		ART UNIT	PAPER NUMBER	
		2612		

RECEIVED
MAR - 7 2006
BERESKIN & PARR

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

AUG 11 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously amended): An image tracking system for use with an image capture device which obtains digitized image frames of an object, the image tracking system comprising:
 - (a) a support for holding the image capture device;
 - (b) a processing device for determining an object location value for the object based on the digitized image frames generated by the image capture device;
 - (c) a position control device coupled to the support for, in use, rotating the support and the image capture device mounted therein about two axes based on the object location such that the object remains within a center region of each of the digitized image frames, said position control device comprising:
 - (i) a base;
 - (ii) a first motor mounted on the base for generating a first rotational movement based on the object location and a first rotatable member mounted to the base for rotation about a first rotation axis, said first rotatable member being coupled to the first motor;
 - (iii) a second motor mounted on the base for generating a second rotational movement based on the object location and a second rotatable member comprising the support mounted to the first rotatable member for rotation about a second rotation axis and being coupled to the second motor;

AUG 11 2006

(iv) said first motor comprising a first shaft member having a first shaft rotation axis longitudinally concentric with the first shaft member, and said second motor comprising a second shaft member having a second shaft rotation axis longitudinally concentric with the second shaft member;

(v) a tendon for coupling the second shaft member to the second rotatable member;

(vi) at least one point on the tendon remaining fixed relative to the second rotation axis when said first shaft member rotates and said second shaft member is stationary, such that the first rotatable movement produced by the rotation of the first shaft member is independent of the second rotatable movement produced by the rotation of the second shaft member.

2. (Cancelled).

3. (Cancelled).

4. (Cancelled).

5. (Previously amended): The image tracking system of claim 1, wherein the first rotation axis and the second rotation axis are orthogonal to each other.

6. (Previously amended): The image tracking system of claim 1, wherein said base is adapted to rest on a support surface and has a cavity region formed therein for housing first and second motors.

7. (Original): The image tracking system of claim 1, further comprising a mounting member for securing the first motor and the second motor, wherein the mounting member attaches to the base member.

8. (Original): The image tracking system of claim 7, wherein said mounting member further comprises a first vertical shaft member for engaging the first rotatable member.
9. (Original): The image tracking system of claim 8, wherein the first rotatable member further comprises a cylindrical hollow cavity for rotatably receiving the first vertical shaft member of the mounting member.
10. (Original): The image tracking system of claim 1, wherein the first rotational movement is a pan movement and the second rotational movement is a tilt movement.
11. (Previously amended): The image tracking system of claim 1, wherein the first axis is stationary.
12. (Currently amended): The image tracking system of claim 1, wherein the first rotation axis is a major rotation axis and the second rotation axis is a minor rotation axis rotatable about ~~rotation~~ the first rotation axis.
13. (Original): The image tracking system of claim 1, wherein the object has a selected color and the object location is the centroid of a region of the selected color within the digitized image frame.
14. (Original): The image tracking system of claim 1, wherein the image capture device is a video camera.
15. (Original): The image tracking system of claim 1, wherein the processing device is a microcontroller.
16. (Currently amended): An image tracking system for use with first and second image capture devices which obtains digitized image frames of an object, the image tracking system comprising:

- (a) a first support for holding the first image capture device and a second support for holding the second image capture device;
- (b) a processing device for determining an object location value for the object based on the digitized image frames generated by the image capture devices device;
- (c) a position control device coupled to the supports support for, in use, rotating the first and second supports and the first and second image capture devices mounted therein about four axes based on the object location-such that the object remains within a center region of each of the digitized image frames, said position control device comprising:
 - (i) a base;
 - (ii) a first motor mounted on the base for generating a first rotational movement based on the object location and a first rotatable member mounted to the base for rotation about a first rotation axis, said first rotatable member being coupled to the first motor;
 - (iii) a second motor mounted on the base for generating a second rotational movement based on the object location and a second rotatable member mounted to the first rotatable member for rotation about a second rotation axis and being coupled to the second motor;
 - (iv) a third rotatable member comprising the first support and a fourth rotatable member comprising the second support, said third and fourth rotatable members being mounted on the second rotatable member, at least one of said third and fourth rotatable members being rotatably mounted to said second rotatable member; and
 - (v) a third motor mounted on the base for providing relative rotation between said third and said fourth rotatable members.

17. (Previously amended): The image tracking system of claim 16, wherein said third motor provides rotation to said third rotatable member around a third rotation axis and further comprising a fourth motor mounted on the base for providing rotation to said fourth rotatable member around a fourth rotation axis.

18. (Original): The image tracking system of claim 17, wherein said third motor generates a third rotational movement based on the object location and rotates the third rotatable member and the fourth motor generates a fourth rotational movement based on the object location and rotates the fourth rotatable member.

19. (Original): The image tracking system of claim 18, wherein the first motor comprises a first shaft member having a first shaft rotation axis longitudinally concentric with the first shaft member, the second motor comprises a second shaft member having a second shaft rotation axis longitudinally concentric with the second shaft member, the third motor further comprising a third shaft member having a third shaft rotation axis longitudinally concentric within the third shaft member and the fourth motor further comprises a fourth shaft member having a fourth shaft rotation axis longitudinally concentric within the fourth shaft member, such that the second shaft rotation axis, the third shaft rotation axis and the fourth shaft rotation axis are each motionless and fixed relative to one another.

20. (Original): The image tracking system of claim 19, wherein the first shaft rotation axis is also motionless and fixed relative to the second shaft rotation axis, the third shaft rotation axis and the fourth shaft rotation axis.

21. (Original): The image tracking system of claim 19 or 20, further comprising a first tendon for coupling the first motor to the first rotatable member, a second tendon for coupling the second motor to the second rotatable member, a third tendon for coupling the third motor to the third rotatable member and a fourth tendon for coupling the fourth motor to the fourth rotatable member.

22. (Previously amended): The image tracking system of claim 21, wherein when said first shaft member is stationary, at least one point on said first tendon remains fixed relative to said first rotation axis.

23. (Previously amended): The image tracking system of claim 21, wherein when said second shaft member is stationary, at least one point on said second tendon remains fixed relative to said second rotation axis.

24. (Previously amended): The image tracking system of claim 21, wherein when said third shaft member is stationary, at least one point on said third tendon remains fixed relative to said third rotation axis.

25. (Previously amended): The image tracking system of claim 21, wherein when said fourth shaft member is stationary, at least one point on said fourth tendon remains fixed relative to said fourth rotation axis.

26. (Original): The image tracking system of claim 16, wherein the first image capture device comprises a first video camera and the second image capture device comprises a second video camera.

27. (Previously amended): A method of tracking an object, said method comprising:

- (a) obtaining a series of digitized image frames from the image capture device;
- (b) identifying the object within each of the digitized frames; and
- (c) providing a first rotational movement to the image capture device about a first rotation axis and providing a second rotational movement to the image capture device about a second rotation axis such that the object remains within a center region of each of the digitized frames, using:

(I) a first motor having a first shaft member with a first shaft rotation axis longitudinally concentric with the first shaft member, and said second motor having a second shaft member with having a second shaft rotation axis longitudinally concentric with the second shaft member;

(II) a tendon for coupling the second shaft member to the second rotatable member;

(III) at least one point on the tendon remaining fixed relative to the second rotation axis when said first shaft member rotates and said second shaft member is stationary, such that the first rotatable movement produced by the rotation of the first shaft member is independent of the second rotatable movement produced by the rotation of the second shaft member.

28. (Previously amended): The tracking method of claim 27, wherein step (b) further comprising:

- (i) determining object center location values for the object based on the digitized image frames;
- (ii) determining frame center location values for the digitized image frames; and
- (iii) comparing the object center location values with the frame center location values to determine the amount of rotation necessary to maintain the object within a center region of each of the digitized frames.

29. (Original): The tracking method of claim 28, wherein the digitized image frames contain an object image for the object.

30. (Original): The tracking method of claim 29, wherein determining the object center location values for the object comprises calculating the centroid of the object image within each digitized image frame.
31. (Original): The tracking method of claim 30, wherein the object image is a region of a selected color.
32. (Original): The tracking method of claim 31, wherein the step of determining the object center location values for the object comprises locating a pixel located at the center of a group of pixels within said region of a selected color.
33. (Original): The tracking method of claim 31, wherein the step of determining frame center location values comprises calculating the centroid of the digitized image frame.
34. (Original): The tracking method of claim 31, wherein step (c) requires rotating the image capture device such that the object center location value and the frame center location value are substantially the same.
35. (Original): The tracking method of claim 27, wherein the image capture device is a video camera.
36. (Original): The tracking method of claim 27, wherein the image capture device is a first video camera and a second video camera.
37. (Currently amended): The tracking method of claim 27, wherein the first stationary motor provides the image capture device with pan movement and the second stationary motor provides the image capture device with tilt movement.

38. (Original): The tracking method of claim 37, wherein the pan movement consists of rotation about a major rotation axis and the tilt movement consists of rotation about a minor rotation axis.

39. (Original): The tracking method of claim 27, wherein step (c) further comprises using first and second motors mounted on a common base to provide first and second rotational movements to the image capture device.

40. (Previously amended): The tracking method of claim 38, wherein the minor rotation axis rotates about the major rotation axis.

41. (Previously amended): The tracking method of claim 38, wherein the major rotation axis is stationary relative to said first shaft rotation axis.

42. (Currently amended): The tracking method of claim 27, wherein step (c) further comprises providing a third rotational movement to the image capture device about a third axis using a third motor and providing a fourth ~~third~~ rotational movement to the image capture device about a fourth axis using a fourth motor such that the object remains within a center region of each of the digitized frames.

43. (Original): The tracking method of claim 42, wherein the first rotational movement is a major pan movement, the second rotational movement is a tilt movement, the third rotational movement is a first minor pan movement and the fourth rotational movement is a second minor pan movement.

44. (Original): The image tracking system of claim 42, wherein when said first shaft member is stationary, said first rotatable member remains fixed relative to said first axis.

45. (Previously amended): The image tracking system of claim 42, wherein when said second shaft member is stationary, said second rotatable member remains fixed relative to said second axis.

46. (Previously amended): The image tracking system of claim 42, wherein when said third shaft member is stationary, said third rotatable member remains fixed relative to said third axis.

47. (Previously amended): The image tracking system of claim 42, wherein when said fourth shaft member is stationary, said fourth rotatable member remains fixed relative to said fourth axis.

48. (Cancelled).

49. (Cancelled).

50. (Cancelled).

51. (Cancelled).

52. (Cancelled).

53. (Cancelled).

54. (Cancelled).

55. (Cancelled).

56. (Previously amended): The image tracking system of claim 1 wherein the first and/or second rotatable member further comprise a tension regulation device for

controlling the amount of tension applied to a tendon, said tension regulation device comprising:

- (a) a platform;
- (b) a resilient column rotatably mounted on the platform and having a cross-section with a first radius;
- (c) a splined column rotatably mounted on the platform and having a plurality of spline members extending radially and having a cross-section with a second outer radius, said splined column being adapted to receive a portion of the tendon therearound;
- (d) said resilient column being spaced apart from said splined column and rotatably mounted on said platform at a distance equal to slightly less than the sum of the first and second radius; and
- (e) such that in the absence of tension the spline members slightly deform said resilient column to restrict rotational movement of said spline column and said tendon and in the presence of tension, the spline members are forced to travel along the surface of said resilient column and to unwind the portion of the tendon around the splined column.

57. (Previously amended): The tension regulation device of claim 56, wherein said platform is mounted within a neck tendon support structure, said neck structure having two orifices, each orifice adapted to receive a portion of the tendon.

58. (Previously amended): The tension regulation device of claim 56, wherein said platform is mounted on a vertical shaft, said vertical shaft having a surface being adapted to receive a portion of the tendon.

59. (Previously amended): The tension regulation device of claim 56, wherein the axis of rotation of said resilient column is orthogonal to said platform.

60. (Previously amended): The tension regulation device of claim 56, wherein the axis of rotation of said splined column is orthogonal to said platform.

61. (Previously amended): The image tracking system of claim 1 wherein at least one of the first and/or second rotatable member further comprise a tendon motor pulley for coupling a tendon length to a motor shaft, said tendon motor pulley comprising:

- (a) a first disc;
- (b) an second disc, the first and second discs having facing surfaces;
- (c) a hub positioned concentrically between said first and second discs;
and
- (d) at least one engagement means extending between the first and second discs and located radially outwardly from the hub, whereby a tendon can travel freely around the hub and the engagement means engages the tendon.

62. (Previously amended): The tendon motor pulley of claim 61, wherein said engagement means is a plurality of protrusions and a plurality of recesses, said recesses adapted to receive said protrusions in a snap fit arrangement.

63. (Previously amended): The tendon motor pulley of claim 61, wherein said hub is disc-shaped.

Appl. No. 09/702,788
Amdt. Dated February 2, 2006
Reply to Notice of Allowance dated November 30, 2005

REMARKS/ARGUMENT

Applicant submits that no new matter has been added by this amendment. Applicant further submits that this amendment corrects merely typographical errors in the claims and that entry of this amendment would require no substantial amount of additional work on the part of the Office.

Applicant thanks the Examiner for consideration of this amendment and confirmation that this amendment has been entered is respectfully requested.

If additional fees are required, please charge the fees to our Deposit Account No. 02-2095.

Respectfully submitted,

GILBERT VERGHESE



Isis E. Caulder, Reg. No. 47,275
Bereskin & Parr, Customer No. 001059
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